

REMARKS

The office action of February 12, 2004, has been carefully considered.

It is noted that the specification is objected to under 37 C.F.R. 1.71.

Claims 8-19 are rejected under 35 U.S.C. 103(a) over British reference 1 481 022 to Burnand in view of the patent to Daub et al. and further in view of the patent to Kramer et al.

In connection with the Examiner's objection to the specification, applicant has canceled reference numeral 20 from the application.

In view of these considerations it is respectfully submitted that the objection to the specification is overcome and should be withdrawn.

In view of the Examiner's rejection of the claims, applicant has amended claims 8 and 13.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the methods and constructions disclosed in the references.

Turning now to the references and particularly to the Burnand reference, it can be seen that this reference discloses a method for removing material from a surface of a moving strip.

The patent to Daub et al. discloses an apparatus for keeping cold strip dry in the runout of cold rolling plants and strip rolling plants. Both Burnand and Daub et al. were cited in combination in previous office actions and have been previously addressed by the applicant.

The patent to Kramer et al. discloses a device for removing liquid from the surface of a moving strip. The Examiner combines this newly cited reference with Burnand and Daub et al. in determining that claims 8-19 would be unpatentable over such a combination. The Examiner cites Kramer et al. as teaching inner and outer chambers as recited in the presently claimed invention. Applicant respectfully submits that Kramer et al. do not make such a teaching. The supply channel 5c of Kramer et al. is directly

connected to the slot nozzle 3. If a gas were brought in sideways into the supply channel 5c, it would escape directly through the slot nozzle. If the strip B to be cleaned or dried is very wide, the gas volume and the gas pressure is always less toward the middle of the strip and the supply channel 5c is filled from both ends.

This problem is precisely what is being solved or avoided by the presently claimed invention, in that two separate chambers, one inner and one outer, are filled with a gas. The inner chambers 24, 25 are filled first. The chamber openings 28, 29 allow the gas to pass to the outer chambers 26, 27. Since the outer chambers are smaller than the inner chambers, the inner chambers form reservoirs for the outer chambers. Additionally, a uniform pressure is assured over the entire width of the strip.

Kramer et al. do not teach such a two chamber system. The slot nozzle 3 is at an angle of  $45^{\circ}$  to  $90^{\circ}$  to the strip. A gas pressure cushion, as in the present invention, is directly avoided. As explained by Kramer et al., there is a suction gap 4 at a spacing or gap to the slot nozzle 3 in the running direction of the strip upstream of the line of impingement. This means that the gas is blown onto the strip counter to the running direction

and is sucked off by a suction tube 6. The suction is controlled so that the two gas streams from the slot nozzles including the liquid from the suction are controlled.

With such an arrangement no pressure cushion is formed. The creation of a pressure cushion is prevented by the suction.

Applicant also takes issue with some of the statements made by the Examiner on page 2, paragraph 4 of the Office Action. The reference numeral 3b of Kramer et al. is a widened portion of the nozzle gap (see column 4, line 6), not an inner chamber. The widened portion serves to accelerate the gas before it reaches the strip.

Thus, Kramer et al. add nothing to the teachings of Burnand and Daub et al. so that one skilled in the art would arrive at the presently claimed invention. The combination provides no teaching of two chambers and a pressure cushion, but instead teaches a suction. Furthermore, the combination does not teach the blast nozzle bars being configured as individual parts and the movable partitions having guide flanges that are guided in grooves in the blast nozzle bars so that the blast nozzle bars are removable from sides of the movable partitions, as in the presently claimed

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invention. This construction does not require the removal of the complete units with the inner and outer chambers for exchange purposes, but instead allows the blast nozzle bars to be removed individually.

In view of these considerations it is respectfully submitted that the rejection of claims 8-19 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

By 

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By:

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